

SYNGNATHUS TUCKERI SP. NOV.: A NEW TASMANIAN  
PIPEFISH

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PLATE V

ABSTRACT

A specimen of a new species of pipefish, *Syngnathus tuckeri* sp. nov., netted at Bridport, North-Eastern Tasmania, by Mr G. V. Tucker, is described and figured. This, the first species of true *Syngnathus* Linné recorded from Tasmania, is notable for its extensive dorsal fin, and for the presence of a rostral crest somewhat suggestive of, though decidedly lower than, that characteristic of the genus *Histiogamphelus* McCulloch.

Family SYNGNATHIDAE

Genus *Syngnathus* Linné, 1758

*Syngnathus tuckeri* sp. nov.

(PLATE V)

*Diagnosis.* Size rather below average for Australian species of *Syngnathus*, habit slender. Annuli 23 + 42. Dorsal fin long, with 35 rays, its base not distinctly elevated; subdorsal annuli 10 + 2. Snout half head; well marked rostral crest. Brood annuli 0-12. Tasmania.

*Description.* Head 3.0 in length to vent, 7.6 in length to base of caudal, 7.9 in total length. Eye 3.1 in snout, which is 2.1 in head. Depth at opercular margin (max. depth) 31.7, at middle of trunk 33.3, at vent 37.2, at middle of tail 79.1, in total length. Vertical height of dorsal 4.1 in base, which is 2.2 in its distance from tip of snout. Pectoral 3.6, caudal 3.0, in head.

Smooth, without spines. Trunk with 23 annuli, compressed, width at tip of pectoral 1.1 in depth there; slightly swollen ventrally in middle third. Tail with 42 annuli, subquadrangular, width at middle 1.2 in depth there. Seven trunk ridges, well defined, but not greatly elevated. Dorsal surfaces of trunk almost flat, unridged; narrower than ventral surface, whose plates meet along keel at an angle of about 150 degrees. Superolateral trunk ridge extends on to first caudal scute: mediolateral ridge terminates on penultimate body annulus,

shortly below superolateral caudal ridge, which originates on left side at middle of antepenultimate, on right side at front of penultimate, body scute, and attains dorsal profile at end of dorsal fin: inferolateral ridges of trunk and tail apparently continuous through interposed brood pouch: medioventral ridge low, but well defined, on trunk, obsolescent on tail.

Snout moderate, slightly less than rest of head, subcylindrical, depth at middle rather less than eye-diameter: a rather prominent erect, triangular in section; its width anteriorly and posteriorly one-third, three-fifths width of snout; its height anteriorly and posteriorly one-fifth, two-fifths height of rest of snout; its free border, which is sinuous, lowest in advance of middle, produced into a microscopically serrate edge terminating at level of anterior nostril, which is situated slightly more than its own diameter in advance of orbit. Superolateral ridge of snout defines base of erect: shortly in front of anterior nostril it divides, short lower branch delimiting narial basin inferiorly, upper branch forming anterolateral rim of basin, and, after being met by short proconvex ridge from hinder end of rostral knife-edge, continuing backward to become low supraorbital ridge. Orbital rim elevated above and in front, scarcely elevated behind; largely circular, but its periphery between 6 and 8 o'clock (left side) defined by an oblique linear ridge, arising below narial depression, and ceasing, at level of posterior third of eye, near origin of inferolateral ridge of snout. Lateral surface of snout with three or four rosettes of striae; ventral surface smooth mesially, with irregular, chiefly longitudinal, ridges externally; side of rostral erect with closely set subparallel ridges. Gape almost vertical.

Eye moderate, 1.5 interorbital width; twice as far from ventral as from dorsal profile. Interorbital space flat, bearing several pairs of minute ridges, outer pairs subparallel, innermost pair diverging posteriorly to become subparallel with supraorbital ridges. Occiput and nape slightly elevated; with reticulating raised lines: feeble occipital and nuchal crests, one-third, one-half eye, respectively. Beneath short horizontal ridge originating below middle of orbit, cheek with relatively bold, largely vertical, ridges: rest of side of head with smaller ridges. Opercle inflated; with regular radiating striae: no horizontal opercular ridge.

Dorsal fin long, with 35 rays, whose height equals depth of body at opercular margin; its not distinctly elevated base occupying 10 body and 2 tail annuli, half length of trunk. Pectoral with 11 rays, rounded; its base, which is unridged, 2.5 in its length, the latter nearly twice eye. Anal indistinguishable. Caudal with 5 rays, pointed, its length equal to sum of last four caudal annuli.

Brood pouch on first 12 caudal annuli; two skinny folds, open mesially throughout whole length; length 1.3 times head, half its distance from eye; depth, which is 1.5 eye, 1.1 times its width. Eggs of modal diameter of 1.2 mm.; in two outer longitudinal rows of 8-12, with a central shorter row of 6, lying dorsal to, and partly hidden by, the longitudinal rows.

Each body scute of the two lateral rows with a lower fan of striae meeting a smaller upper fan, junction marked by minute ridge defining arcuate margin of lower fan: area not occupied by fans smooth. On dorsal and on ventral surface one pair of fans, subequal, with dividing ridge less defined, the whole suggesting a mitotic spindle. Similar, but more obscure, pattern of one pair of fans on each surface of tail: striae most prominent on lateral surface, on which, in anterior third, lower fan is twice upper; fans on other surfaces subequal.

Ground colour, in alcohol, pale horn: trunk to origin of dorsal rather darker in upper lateral half, distinctly dusky dorsally: dorsal surface of tail above brood pouch darker than elsewhere: ventral surface of trunk, not of tail, lighter, a strip

of pale, faintly golden straw embracing midventral ridge: head in general concolorous with body, its dorsal not noticeably darker than its lateral surface; an obscure dusky interorbital band, and a whitish streak extending from below eye along about one-third of inferolateral angle of snout. A row of usually hemispherical whitish spots, one on each scute, along lower half of trunk: posteriorly these show a tendency, particularly marked on right side of body, to break up into two rows. Dorsal and pectoral fins almost colourless: caudal dark brown, becoming black distally. Brood pouch ashen grey, becoming dusky along dorsal and ventral margins: eggs wheat-coloured.

*Type.* Described and figured (Plate V) from the unique holotype (Q.V.M. Reg. No. 1941. 16), a male, 126.6 mm. in total length, 121.3 mm. without caudal: presented by Mr G. V. Tueker, Moorina, in whose honour the species is named.

*Locality.* Bridport, Northern Tasmania. Netted in shallow water.

*Affinities.* The present species is here referred to *Syngnathus sensu stricto*, from all described Australian species of which it is readily distinguished by the characters in the diagnosis, particularly the location and extent of the dorsal fin. Its relationships with local species of *Syngnathus*, as this genus is commonly understood by Australian authors (*e.g.*, McCulloch, 1929)—*i.e.*, with relegation, following Jordan and Snyder (1901) rather than Kaup (1853) or Duncker (1909), to *Corythoichthys* of forms with body more robust than in typical *Syngnathus* and with operculum crossed by a horizontal ridge—are shown in the subjoined key. Characters noted in the diagnosis also separate it trenchantly from *Syngnathus sensu lato*, and from the not altogether satisfactorily differentiated endemic genus *Histiogamphelus* McCulloch, which latter it approaches in the general character, if not in the extent of development, of the rostral crest.

No species of true *Syngnathus* has previously been recorded from Tasmania.

#### KEY TO AUSTRALIAN SPECIES OF SYNGNATHUS, S. STR.

- A. Dorsal fin mainly on trunk; rays more than 33. Body annuli more than 22. Subdorsal annuli more than 11 ..... *S. tuckeri*
- AA. Dorsal fin not mainly on trunk; rays fewer than 33. Body annuli fewer than 22. Subdorsal annuli fewer than 11.
  - B. Dorsal fin equally on trunk and tail
    - C. Size larger (length to 11 inches). A filament above eye. Snout equals post-orbital portion of head. Total annuli fewer than 56 ..... *S. superciliaris*
    - CC. Size smaller (length to 7 inches). No filament above eye. Snout exceeds post-orbital portion of head. Total annuli more than 56 ..... *S. tigris*
  - BB. Dorsal fin mainly on tail
    - D. Snout more than half head. Total annuli fewer than 55. Two subdorsal annuli on body. Dorsal rays more than 25 ..... *S. pelagicus*
    - DD. Snout less than half head. Total annuli more than 55. Fewer than two subdorsal annuli on body. Dorsal rays fewer than 25 ..... *S. curtirostris*

Into the key of Syngnathidae recorded from Tasmania, with some diagnostic characters of allied species occurring in Victoria and South Australia, given by Scott (1939) the present species would be introduced thus: couplet 8, second alternative amended by deletion of clause 'Tasmanian species with <30 dorsal rays'; thence, as directed, to couplet 11 (first alternative); differentiated from *Syngnathus curtirostris* (not known to occur in Tasmania) by key to *Syngnathus* here given.

## REFERENCES

- DUNCKER, G., 1909.—*Fauna Sudwest-Australiens*, band II, 1909.  
JORDAN, D. S., and SNYDER, J. O., 1901.—*Proc. U.S. Nat. Mus.*, XXIV, 1901, p. 7.  
MCCULLOCH, A. R., 1929.—Check-List of the Fishes recorded from Australia. *Mém. Aust. Mus. Sydney*, V, I, 1929, pp. 1-144.  
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## PLATE V

*SYNGNATHUS TUCKERI* SP. NOV.

- Fig. 1.—Holotype male (Q.V.M. Reg. No. 1941. 16). Bridport, Northern Tasmania; netted in shallow water. Standard length 121.3 mm., total length 126.6 mm. (figure is approximately one and a half times natural size).
- Fig. 2.—Head of same specimen, showing, in particular, form and degree of development of rostral crest. Scale three times that of Fig. 1.
- Fig. 3.—Ventral view of ovigerous brood-pouch of same specimen. Scale twice that of Fig. 1.



FIG. 1

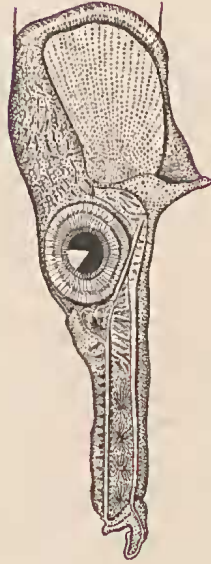


FIG. 2



FIG. 3